10/642,201.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patentees: Joo-Sun YOON, *et al.* Issued: March 1, 2005

Patent No.: US 6,862,060 B2

For: **TRANSFLECTIVE LIQUID CRYSTAL DISPLAY**

Attn: CERTIFICATE OF CORRECTION BRANCH
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REQUEST FOR CERTIFICATE OF CORRECTION
UNDER 37 C.F.R. 1.323
APPLICANT'S MISTAKE

Sir:

Transmitted herewith in duplicate is PTO Form 1050 - Certificate of Correction for the above-identified U.S. Patent correcting the Applicant's mistake as shown in the enclosed Certificate of Correction form. Also attached is a copy of the relevant page of the Letters Patent, with the requested correction marked in red ink.

Issuance of a Certificate of Correction is in order. Since this matter was incorrectly shown on the Specification filed August 18, 2003 with the U.S. Patent and Trademark Office, and involves a minor diction error, our check in the amount of $100.00 is submitted herewith.

Please charge any deficiencies and credit any overpayments to Attorney's Deposit Account No. 23-1951.

Respectfully submitted,

08/05/2005 SSITHIB1 00000056 6862060
01 FC:1811 100.00 OP

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UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO.: 6,862,060 B2
DATED: March 1, 2005
INVENTORS: Joo-Sun YOON, *et al.*

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below.

At column 8, line 15, please delete "second" and insert -- first --

At column 8, line 19, please delete "first" and insert -- second --

MAILING ADDRESS OF SENDER:

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PATENT NO.: 6,862,060 B2
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AUG 16 2005

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mounted on the gate TCPs **400** and the data TCPs **500**, respectively. A plurality of leads (not shown) connected between the gate driving ICs **410** and the signal path **451** and between the gate driving ICs and the gate lines **121** are formed on the gate TCPs **410**. Another plurality of leads (not shown) connected between the data driving ICs **510** and the signal paths **551** and **552** and between the data driving ICs **510** and the data lines **171** and **172** are formed on the data TCPs **500**. Reference numerals **520** and **521** shown in FIG. **1** indicate the leads for transmitting signals for the dummy data lines **172**, which are connected to the signal path **552**.

The gate TCPs **400** and the data TCPs **500** are respectively attached to the gate PCB **450** and the data PCB **550** to be electrically connected thereto, and are attached to the panel assembly **300** to be electrically connected to the gate lines **121** and the data lines **171** and **172**, respectively. Alternatively, the gate driving ICs **410** and/or the data driving ICs **510** are mounted on the TFT array panel **1**, which is called a COG (chip on glass) type. Alternatively, the gate driving ICs **410** and/or the data driving ICs **510** are substituted with driving circuits formed in the TFT array panel **1**, which are made of the same layers as the gate lines **121**, the data lines **171** and **172** and the TFTs.

The LCD controller **700** provides a plurality of red, green and blue image signals for the data driving ICs **510** and a plurality of control signals for the driving ICs **410** and **510** via the signal paths **451**, **551** and **552** on the PCBs **450** and **550** and the FPC film **600** to control the driving ICs **410** and **510**. The gate driving ICs **410** generate the scanning signals based on the gate-on voltage and the gate-off voltage from the driving voltage generator **900** to apply to the gate lines **121** via the end portions **125** thereof in synchronization with the control signals from the LCD controller **700**. The data driving ICs **510** select the gray voltages from the gray voltage generator based on the image signals from the LCD controller **700** to apply as the data signals to the appropriate data lines **171** and **172** via the end portions **179** thereof in synchronization with the control signals from the LCD controller **700**.

In this LCD, the impurity ions on the surface of the aligning films **11** and **21** travel along the rubbing direction, and gather at the dummy pixel electrodes **195**, in particular, near the lower right corner. As described above, since the dummy pixel electrodes **195** in the rightmost columns overlap the black matrix **220**, the area with defect image caused by such ions is screened by the black matrix **220**. Furthermore, the dummy pixel electrodes **195**, which have no transmissive area, block the light from a light source. Accordingly, the LCD according to this embodiment compensates the defects in the dummy pixel areas DP.

According to another embodiment of the present invention, the rightmost regular pixel electrodes **190** are elongated along the gate lines **121** to overlap the black matrix **220** without providing the dummy pixel electrodes. The elongated portions of the pixel electrodes **190** have no transmissive area.

Although preferred embodiments of the present invention have been described in detail hereinabove, it shall be clearly understood that many embodiments having variations and/or modifications of the basic inventive concepts herein taught are possible, which may appear to those of ordinary skill in the pertinent art based on the teachings herein. Such embodiments will fall within the spirit and scope of the present invention, as defined in the appended claims.

What is claimed is:

1. A liquid crystal display comprising:

a first insulating substrate including a display area and a peripheral area located outside the display area;

a plurality of signal lines provided on the first substrate;

a plurality of first pixel electrodes electrically connected to the signal lines and located in the display area, each first pixel electrode including a first transparent electrode and a ~~second~~ first reflective electrode; and

a second pixel electrode electrically connected to the signal lines and located in the peripheral area, the second pixel electrode including a ~~first~~ second transparent electrode and a second reflective electrode having an area larger than the first reflective electrode.

2. The liquid crystal display of claim **1**, wherein the second reflective electrode covers substantially entire surface of the second transparent electrode.

3. The liquid crystal display of claim **2**, wherein the first reflective electrode has a hole exposing a portion of the first transparent electrode.

4. The liquid crystal display of claim **1**, further comprising:

a second insulating substrate disposed opposite the first substrate; and

a black matrix provided on the second substrate, the black matrix screening the second pixel electrodes.

5. The liquid crystal display of claim **4**, further comprising a common electrode provided on the second substrate and disposed opposite the first and the second pixel electrodes, wherein the first and the second pixel electrodes and the common electrode are supplied with signals having periodically inverting polarity.

6. The liquid crystal display of claim **1**, wherein the first and the second pixel electrodes are arranged in a matrix, the signal lines include a plurality of gate lines extending in a row direction and a plurality of data lines extending in a column direction, and the liquid crystal display further comprises a plurality of switching elements transmitting first signals from the data lines to the first and the second pixel electrodes in response to second signals from the gate lines.

7. The liquid crystal display of claim **6**, further comprising an aligning film on the first substrate, wherein the aligning film is rubbed in a first direction toward the second pixel electrode.

8. The liquid crystal display of claim **7**, wherein the first direction is oblique to the row direction and the column direction.

9. The liquid crystal display of claim **8**, wherein each of the gate lines and the data lines has an end portion for signal communication with other device, and the first direction goes away from the end portions.

* * * * *